

# CHEMICAL ENGINEERING, M.E.

## Learning Outcomes

1. Graduates of the ME program will acquire and demonstrate advanced expertise in the core subject areas of chemical engineering, which are chemical process analysis, thermodynamics, fluid flow analysis and mass transfer.
2. Graduates of the ME program will acquire advanced working knowledge of various areas of chemical science and technology in allied fields, including other engineering disciplines, business, the sciences, and/or mathematics.

## Admissions Requirements

Requirements for admission to graduate degree programs in chemical engineering (M.E., M.S., Ph.D.) conform to the general regulations of The Graduate School, as well as more stringent departmental requirements as described below. In general, the admissions process is highly competitive. Admissions decisions are based on the quality of the applicant's previous university-level academic work (as reflected by grade point average), letters of recommendation, and other evidence of past accomplishments.

Students holding B.S. degrees may apply for direct admission to the doctoral program; it is not necessary to complete a master's degree first. Applicants with degrees (B.S. or higher) in other engineering disciplines or chemistry may be admitted with additional remedial course requirements in chemical engineering at the undergraduate level. The required remedial courses will typically include the prerequisites to required graduate courses and may include additional undergraduate courses in chemical engineering, mathematics, and chemistry. The detailed specification of course requirements and substitutions of courses from other universities will be considered on a case-by-case basis.

International applicants must also submit TOEFL, IELTS Intl. Academic Course Type 2 exam scores, or equivalent. All applicants should submit a statement of purpose (or similar essay) that describes the applicant's background, research interests, and whether or not financial aid is required. Students admitted to the Ph.D. degree program usually receive financial aid. However, the department does not normally provide financial aid to students in the M.E. or M.S. degree programs.

## Degree Requirements (30 Hours)

### Core Courses (12 Hours)

Course	Title	Credits
ECHE 700	Chemical Process Analysis	3
ECHE 710	Advanced Chemical Engineering Thermodynamics	3
ECHE 720	Advanced Fluid Flow Analysis	3
ECHE 722	Advanced Mass Transfer	3
<b>Total Credit Hours</b>		<b>12</b>

### Six Additional Lecture Courses (18 Hours)

Two of the six additional courses (6 hours) must be chemical engineering lecture courses, and the remaining four courses (12 hours) may be from business, chemistry, engineering, or mathematics. A program of independent study (ECHE 797, three or six credit hours) may be

substituted for one or two of the remaining four lecture courses. At least five of the lecture courses (15 hours) required for the Master of Engineering degree must be numbered 700 and above. Proposals for programs of independent study must be submitted and approved by the faculty of the department before the work is initiated.

### Advisement

The graduate director serves as the academic advisor for M.E. students.

### Comprehensive Examination

Each M.E. candidate must pass a comprehensive examination before graduation. Students should consult the graduate director for information on the format and subjects of the comprehensive examination.

Note: No foreign language is required for any graduate degree in chemical engineering. Additional requirements follow.